How to Teach Procedural Skills

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- Procedural skills are defined as mental and motor activities required to execute a manual task.¹

- Technical skills are only one aspect of procedures; the others include clinical judgment, communication, and teamwork.¹

- “See one, do one, teach one” is not the best way to teach the complex technical procedures needed in many hospital-based specialties.²,³

- McLeod et al. have proposed a more structured approach to teaching procedures.³ (Table 1)

- Teachers should adapt their behavior to the learner’s needs.
  - Demonstrate clinical excellence.
  - Actively engage learners.
  - Have a positive attitude.
  - Be a role model for professionalism.
  - Demonstrate concern for the learner.

- Provide feedback:³,⁴
  - Make it regular, expected, and honest, based on first-hand observations.
  - Be specific and descriptive.
  - Ensure feedback is nonjudgmental and performance-based—use open-ended questions to discuss actions and behaviors, not personalities or attitudes.

- Challenges specific to the OR environment⁴
  - Physical environment and the emotional impact of the surgical procedure.
  - Complexity of the educational task.
  - Struggle of managing the relationships between all the team members in the OR.

Table 1: Seven Principles for Teaching Procedural and Technical Skills. Adapted from McLeod et al.³

| Plan ahead | • Review learning objectives.  
| Demostrate the procedure | • Make explicit commentary during the demonstration.  
| Observe the learner in action and allow for practice | • Break down the procedure into key steps.  
| Provide feedback | • Allow for questions or interruptions.  
| Encourage learners’ self-assessment | • Ask the learner to verbalize what he/she is doing.  
| Allow for practice under less-than-ideal conditions | • Elicit self-assessment and reflection.  
| Prepare to modify approach | • Be specific and descriptive.  
| | • Ensure feedback is nonjudgmental and performance based.  
| | • Focus on behaviors, not personality.  
| | • Assess skill level.  
| | • Identify areas for improvement.  
| | • Ensure varying degrees of complexity, such as challenging anatomy.  
| | • Learner who shows up unprepared.  
| | • Unfamiliar learning site.  
| | • “Opportunistic” learning and teaching.  

References: